If you are using a printed copy of this procedure, and not the on-screen version, then you <u>MUST</u> make sure the dates at the bottom of the printed copy and the on-screen version match.

The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.

C-A OPERATIONS PROCEDURES MANUAL

4.120.102.d NASA Science Research Foundation (NSRL) (Peer 27) Sweep Tests

Attachment

C-A-OPM Procedures in which this Attachment is used.				
4.120.102				

Hand Processed Changes

	<u>Signature on Fi</u> der-Accelerator Depart	Date

V. Castillo

PASS ANNUAL ACCEPTANCE TEST PROTOCOL

Division A Software Filename and Checksum: Title:	Checksum:		
Division B Software Filename and Checksum: Title:	Checksum:		
Initial testing complete:			
Test Team Leader's Name (Print):	Life Number:		
Test Team Leader's Name (Sign):	Date://		
Acceptance test procedure complete (following repairs and retesting if required):			
Test Team Leader's Name (Print):	Life Number:		
Test Team Leader's Name (Sign):	Date://		
Test results reviewed by:			
Safety Section Head's Name (Print):	Life Number:		
Safety Section Head's Name (Sign):	Date://		
Test results accepted by Radiation Safety Committee:			
RSC Member's Name (Print):	Life Number:		
RSC Member's Name (Sign):	Date:/		

1.1		To Sweep	Zone NSRL-Z1	
		CLOSE VERIFY	Gates BGE1, BGI1 Gates BGE1 [], BGI1 []	CLOSED
		PLACE VERIFY	Peer 27 in Controlled Access (CA), Mode 16 Peer 27 is in CA Check station 1CS1	MODE 16
		ACTIVATE VERIFY ACTIVATE	Check station 1CS1 indicator (Area Secured) Check station 1CS2	BLINKS ONCE
		VERIFY ACTIVATE	Check station 1CS2 indicator (Area Secured) Check station 1CS3	BLINKS ONCE
		VERIFY EXIT	Check station 1CS3 indicator (Area Secured) Gate BGE1 with Simultaneous Release (SR)	BLINKS ONCE
		VERIFY PLACE	MCR sees Zone NSRL-Z1 Peop 27 in CA Mode 17	SWEPT
		VERIFY	Peer 27 in CA, Mode 17 Peer 27 remains in CA	MODE 16
	ă	VERIFY	MCR sees Zone NSRL-Z1	SWEPT
		PLACE	Peer 27 in CA, Mode 18	
	Ö	VERIFY VERIFY	Peer 27 remains in CA MCR sees Zone NSRL-Z1	MODE 16 SWEPT
		VERIFY	NICK sees Zolle NSKL-ZI	SWEPI
		PLACE	Peer 27 in Restricted Access (RA), Mode 8	
		VERIFY	Peer 27 is in RA	MODE 8
		VERIFY	MCR sees Zone NSRL-Z1	SWEPT
		PLACE	Peer 27 in RA, Mode 9	
		VERIFY	Peer 27 remains in RA	MODE 8
		VERIFY	MCR sees Zone NSRL-Z1	SWEPT
		PLACE	Peer 27 in RA, Mode 10	
		VERIFY	Peer 27 remains in RA	MODE 8
		VERIFY	MCR sees Zone NSRL-Z1	SWEPT
		PLACE	Peer 27 in Safe Access (SA), Mode 2	
		VERIFY	Peer 27 is in SA	MODE 2
		VERIFY	MCR sees Zone NSRL-Z1	SWEPT
	C	Check for accep	tance of To Sweep Zone NSRL-Z1	
1.2	Te	st SR entry hol	ds Sweep and Illegal exit drops Sweep of Zone NSRL-Z1	
		PLACE	Peer 27 in CA, Mode 16	
		VERIFY	Peer 27 is in CA	MODE 16
		ENTER	BGE1 with #20 Key and SR from MCR	
		VERIFY	Peer 27 is in CA	MODE 16
	ō	VERIFY	MCR sees Zone NSRL-Z1	SWEPT
		OPEN	Gate BGE1 without Simultaneous Release and Exit	
		VERIFY	MCR sees Zone NSRL-Z1	NOT SWEPT
	ă	VERIFY	Peer 27 is in CA	MODE 16
		CLOSE	Gate BGE1	I
	C	check for accep	tance of Test SR entry holds Sweep and Illegal exit drops Sweep o	f Zone NSRL-Z1

1.3	Test Attempt to Sweep Zone NSRL-Z1 with Gate open fail				
		CLOSE VERIFY	Gates BGE1, BGI1 Gates BGE1 [], BGI1 []	CLOSED	
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16	
		OPEN	Gate BGE1 and Hold open		
		ACTIVATE VERIFY	Check station 1CS1 Check station 1CS1 does	NOT BLINK	
	_	CLOSE ACTIVATE VERIFY Check for accep	Gate BGE1 Check station 1CS1 Check station 1CS1 indicator (Area Secured) ptance of Test Attempt to Sweep Zone NSRL-Z1 with Gate open fail	BLINKS ONCE	
1 .4		To Sweep	Zone NSRL-Z2		
		CLOSE VERIFY PLACE	Gates BGE2, BGI1, BGI2 Gates BGE2 [], BGI1 [], BGI2 [] Peer 27 in Controlled Access (CA), Mode 16	CLOSED	
		VERIFY ACTIVATE	Peer 27 is in CA Check station 2CS1	MODE 16	
		VERIFY ACTIVATE	Check station 2CS1 indicator (Area Secured) Check station 2CS2	BLINKS ONCE	
		VERIFY ACTIVATE	Check station 2CS2 indicator (Area Secured) Check station 2CS3	BLINKS ONCE	
		VERIFY EXIT	Check station 2CS3 indicator (Area Secured) Gate BGE2 with Simultaneous Release (SR)	BLINKS ONCE	
		VERIFY	MCR sees Zone NSRL-Z2	SWEPT	
		PLACE VERIFY	Peer 27 in CA, Mode 17 Peer 27 remains in CA	MODE 16	
	Ī	VERIFY	MCR sees Zone NSRL-Z2	SWEPT	
		PLACE VERIFY VERIFY	Peer 27 in CA, Mode 18 Peer 27 remains in CA MCR sees Zone NSRL-Z2	MODE 16 SWEPT	
	Ц			SWEIT	
		PLACE VERIFY VERIFY	Peer 27 in Restricted Access (RA), Mode 8 Peer 27 is in RA MCR sees Zone NSRL-Z2	MODE 8 SWEPT	
		PLACE VERIFY VERIFY	Peer 27 in RA, Mode 9 Peer 27 remains in RA MCR sees Zone NSRL-Z2	MODE 8 SWEPT	
		PLACE VERIFY VERIFY	Peer 27 in RA, Mode 10 Peer 27 remains in RA MCR sees Zone NSRL-Z2	MODE 8 SWEPT	
		PLACE VERIFY VERIFY heck for accept	Peer 27 in Safe Access (SA), Mode 2 Peer 27 is in SA MCR sees Zone NSRL-Z2 tance of To Sweep Zone NSRL-Z2	MODE 2 SWEPT	

1.5	1.5 Test SR entry holds Sweep and Illegal exit drops Sweep of Zone NSRL-Z2			
		PLACE	Peer 27 in CA, Mode 16	
		VERIFY	Peer 27 is in CA	MODE 16
		ENTER	BGE2 with #20 Key and SR from MCR	
		VERIFY	Peer 27 is in CA	MODE 16
		VERIFY	MCR sees Zone NSRL-Z2	SWEPT
		OPEN	Gate BGE2 without Simultaneous Release and Exit	
		VERIFY	MCR sees Zone NSRL-Z2	NOT SWEPT
		VERIFY	Peer 27 is in CA	MODE 16
		CLOSE	Gate BGE2	
	C	heck for accep	tance of Test SR entry holds Sweep and Illegal exit drops Sweep of Z	one NSRL-Z2
1.6	Tes	t Attempt to S	weep Zone NSRL-Z2 with Gate open fail	
		CLOSE	Gates BGE2, BGI1, BGI2	
		VERIFY	Gates BGE2 [], BGI1 [], BGI2 []	CLOSED
		PLACE	Peer 27 in CA, Mode 16	
		VERIFY	Peer 27 is in CA	MODE 16
		OPEN	Gate BGE2 and Hold open	
		ACTIVATE	Check station 2CS1	
		VERIFY	Check station 2CS1 does	NOT BLINK
		CLOSE	Gate BGE2	
		ACTIVATE	Check station 2CS1	
		VERIFY	Check station 2CS1 indicator (Area Secured)	BLINKS ONCE
		Check for acce	ptance of Test Attempt to Sweep Zone NSRL-Z2 with Gate open fail	

1.7		To Sweep	Zone NSRL-Z3	
		CLOSE VERIFY	Gate BGI2 Gate BGI2 [CLOSED
		PLACE VERIFY	Peer 27 in Controlled Access (CA), Mode 16 Peer 27 is in CA	MODE 16
		ACTIVATE VERIFY ACTIVATE	Check station 3CS1 Check station 3CS1 indicator (Area Secured) Check station 3CS2	BLINKS ONCE
		VERIFY EXIT	Check station 3CS2 indicator (Area Secured) Gate BGI2 with Simultaneous Release (SR)	BLINKS ONCE
		VERIFY	MCR sees Zone NSRL-Z3	SWEPT
		PLACE VERIFY VERIFY	Peer 27 in CA, Mode 17 Peer 27 is in CA MCR sees Zone NSRL-Z3	MODE 17 SWEPT
		PLACE	Peer 27 in CA, Mode 18	
		VERIFY VERIFY	Peer 27 remains in CA MCR sees Zone NSRL-Z3	MODE 17 SWEPT
		PLACE VERIFY VERIFY	Peer 27 in Restricted Access (RA), Mode 8 Peer 27 is in RA MCR sees Zone NSRL-Z3	MODE 8 SWEPT
		PLACE VERIFY VERIFY	Peer 27 in RA, Mode 9 Peer 27 is in RA MCR sees Zone NSRL-Z3	MODE 9 SWEPT
		PLACE	Peer 27 in RA, Mode 10	·
		VERIFY VERIFY	Peer 27 remains in RA MCR sees Zone NSRL-Z3	MODE 9 SWEPT
		PLACE VERIFY VERIFY	Peer 27 in Safe Access (SA), Mode 2 Peer 27 is in SA MCR sees Zone NSRL-Z3	MODE 2 SWEPT
	C	heck for accep	tance of To Sweep Zone NSRL-Z3	
1.8	Te	st SR entry of	BGI2 holds Sweep and Illegal exit drops Sweep of Zone NSRL-Z3	
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16
		ENTER VERIFY VERIFY	BGI2 with #20 Key and SR from MCR Peer 27 is in CA MCR sees Zone NSRL-Z3	MODE 16 SWEPT
		OPEN VERIFY VERIFY CLOSE	Gate BGI2 without Simultaneous Release and Exit MCR sees Zone NSRL-Z3 Peer 27 is in CA Gate BGI2	NOT SWEPT MODE 16
	C	heck for accep	tance of Test SR entry holds Sweep and Illegal exit drops Sweep of Z	Zone NSRL-Z3

6

1.9	Test Attempt to Sweep Zone NSRL-Z3 with Gate open fail				
		CLOSE VERIFY	Gates BGE1, BGI1 Gates BGE1 [], BGI1 []	CLOSED	
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16	
		OPEN	Gate BGE1 and Hold open		
		ACTIVATE VERIFY	Check station 3CS1 Check station 3CS1 does	NOT BLINK	
		CLOSE ACTIVATE VERIFY	Gate BGE1 Check station 3CS1 Check station 3CS1 indicator (Area Secured)	BLINKS ONCE	
		Check for acce	ptance of Test Attempt to Sweep Zone NSRL-Z3 with Gate open fai	1	
1.10]	Mode 18, Mode	e 10, Zone NSRL-Z2 and Zone NSRL-Z3		1
		STATION	One personnel in Zone NSRL-Z2		
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16	
		FORCE VERIFY	Sweep of Zone NSRL-Z2 and Zone NSRL-Z3 MCR sees Zone NSRL-Z2 and Zone NSRL-Z3	SWEPT	
		PLACE VERIFY	Peer 27 in CA, Mode 18 Peer 27 is in CA	MODE 18	
		OPEN VERIFY VERIFY VERIFY CLOSE	Gate BGI1 MCR sees Zone NSRL-Z2 MCR sees Zone NSRL-Z3 Peer 27 goes to Safe Access Gate BGI1	NOT SWEPT SWEPT MODE 2	
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16	
		FORCE VERIFY	Sweep of Zone NSRL-Z2 MCR sees Zone NSRL-Z2 and Zone NSRL-Z3	SWEPT	
		PLACE VERIFY	Peer 27 in CA, Mode 10 Peer 27 is in CA	MODE 10	
		OPEN VERIFY VERIFY VERIFY CLOSE	Gate BGI1 MCR sees Zone NSRL-Z2 MCR sees Zone NSRL-Z3 Peer 27 goes to Safe Access Gate BGI1	NOT SWEPT SWEPT MODE 2	
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16	
~ .			- 10- 17-		

7

C-A-OPM-ATT 4.120.102.d (Y)

Revision 01

March 16, 2003

		FORCE VERIFY	Sweep of Zone NSRL-Z2 and Zo MCR sees Zone NSRL-Z2 and Zo		SWEPT
		PLACE VERIFY	Peer 27 in CA, Mode 18 Peer 27 is in CA		MODE 18
		OPEN	Gate BGE2		
		VERIFY	MCR sees Zone NSRL-Z2		NOT SWEPT
	ă	VERIFY	MCR sees Zone NSRL-Z3		SWEPT
	Ō	VERIFY	Peer 27 goes to Safe Access		MODE 2
		CLOSE	Gate BGE2		CLOSE
		STATION	One Personnel in Zone NSRL-Z	3	
		PLACE	Peer 27 in CA, Mode 16		ı
		VERIFY	Peer 27 is in CA		MODE 16
		FORCE	Sweep of Zone NSRL-Z2		
		VERIFY	MCR sees Zone NSRL-Z2 [] and	Zone NSRL-Z3	SWEPT
		PLACE	Peer 27 in CA, Mode 18		'
		VERIFY	Peer 27 is in CA		MODE 18
		OPEN	Gate BGI2		
		VERIFY	MCR sees Zone NSRL-Z2		NOT SWEPT
		VERIFY	MCR sees Zone NSRL-Z3		NOT SWEPT
		VERIFY	Peer 27 goes to Safe Access		MODE 2
		CLOSE	Gate BGI2		
		PLACE	Peer 27 in CA, Mode 16		
		VERIFY	Peer 27 is in CA		MODE 16
		Check for acc	eptance of Test: Mode 18, Mode	10, Zone NSRL-Z2 and Zone NSRI	Z3
1.11	I	Mode 17, Mod	e 9, and Zone NSRL-Z3		
		STATION	One personnel in Zone NSRL-Z	3	
		PLACE	Peer 27 in CA, Mode 16		
		VERIFY	Peer 27 is in CA		MODE 16
		FORCE	Sweep of Zone NSRL-Z3		
		TUNCE	SWEED OF ZOHE INSINE-ZS		
		VERIFY	MCR sees Zone NSRL-Z3		SWEPT
		VERIFY	MCR sees Zone NSRL-Z3		SWEPT
					SWEPT MODE 17
		VERIFY PLACE VERIFY	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17 Peer 27 is in CA		'
		VERIFY PLACE	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17		'
		VERIFY PLACE VERIFY OPEN	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17 Peer 27 is in CA Gate BG12		MODE 17
		PLACE VERIFY OPEN VERIFY	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17 Peer 27 is in CA Gate BGI2 MCR sees Zone NSRL-Z3		MODE 17 NOT SWEPT
		PLACE VERIFY OPEN VERIFY VERIFY	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17 Peer 27 is in CA Gate BGI2 MCR sees Zone NSRL-Z3 Peer 27 goes to Safe Access		MODE 17 NOT SWEPT
		PLACE VERIFY OPEN VERIFY VERIFY CLOSE	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17 Peer 27 is in CA Gate BGI2 MCR sees Zone NSRL-Z3 Peer 27 goes to Safe Access Gate BGI2		MODE 17 NOT SWEPT
		PLACE VERIFY OPEN VERIFY VERIFY CLOSE PLACE	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17 Peer 27 is in CA Gate BGI2 MCR sees Zone NSRL-Z3 Peer 27 goes to Safe Access Gate BGI2 Peer 27 in CA, Mode 16		MODE 17 NOT SWEPT MODE 2
		PLACE VERIFY OPEN VERIFY VERIFY CLOSE PLACE VERIFY	MCR sees Zone NSRL-Z3 Peer 27 in CA, Mode 17 Peer 27 is in CA Gate BGI2 MCR sees Zone NSRL-Z3 Peer 27 goes to Safe Access Gate BGI2 Peer 27 in CA, Mode 16 Peer 27 is in CA		MODE 17 NOT SWEPT MODE 2

March 16, 2003

		PLACE VERIFY	Peer 27 in CA, Mode 9 Peer 27 is in CA	MODE 9				
		OPEN VERIFY VERIFY CLOSE	Gate BGI2 MCR sees Zone NSRL-Z3 Peer 27 goes to Safe Access Gate BGI2	NOT SWEPT MODE 2				
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16				
		FORCE VERIFY	Sweep of Zone NSRL-Z3 MCR sees Zone NSRL-Z3	SWEPT				
		PLACE VERIFY	Peer 27 in CA, Mode 17 Peer 27 is in CA	MODE 17				
		OPEN VERIFY VERIFY CLOSE	Gate BGE2 MCR sees Zone NSRL-Z3 Peer 27 remains in CA Gate BGE2	SWEPT MODE 17				
		PLACE VERIFY	Peer 27 in CA, Mode 16 Peer 27 is in CA	MODE 16				
		Check for acco	eptance of Test: Mode 17, Mode 9, Zone NSRL-Z3					
	END OF TEST PROCEDURE							
TTL:	Sign	for completio	on of initial testing:					
	D	ate:/						
TTL:	Sign	for completio	on of final testing:	<u></u>				
	Date:/							